

NOTES ON SOME NEW ENGLAND PHRYGANEIDAE (TRICHOPTERA)¹

BY NATHAN BANKS
Holliston, Mass.

Among the caddice flies taken by Prof. Brues at Petersham, Mass., and also by the State Forest Service in Maine, there are many specimens of *Banksiola*. More than half are *selina*, but many are *dossuaria*, and there are (from Petersham) six specimens of *smithi* (both sexes) and two males and two females of *cava*, previously known to me by only one specimen. Also from various localities there are many *canadensis* and some of the similar (in appearance) *Neuronia angustipennis*.

In *B. selina* I note that there is much variation in the processes on the hind margin of the genital cavity, and frequently the two sides are unlike.

Of the *dossuaria* six are from Petersham, the others from Maine; Tim Pond, Holeb, Ashland, Hardwood Mt., Oquosoc, Camp Colby, Round Mt., Seebloomook.

The *smithi* are all from Petersham, except one from Holliston. Leonard has recorded *B. smithi* from Michigan. The *canadensis* are mostly from Ashland and Gibson, one Tramway, Jonesboro, and Kellyland. (These are the ones pinned, others were put in alcohol, and many more discarded, mostly *selina*.)

In the M.C.Z. collection there is a new species of *Banksiola* from eastern Massachusetts, noticeable for its four subequal horns.

***Banksiola cornuta*, n. sp.**

Figures 3, 4, 12, 15, 19

The tip of the abdomen shows four large spines, the upper pair with a double tip, inner edge a little irregular, the lower

¹ Published with a grant from the Museum of Comparative Zoology at Harvard College.

pair of horns simple, and no teeth along the hind margin of the last abdominal segment. From the side one sees the long upper tooth and the lower, and between is an upward extension of lower part, terminating in a rounded tip, just below the upper horn; this tip is provided with numerous long bristles.

From behind one sees the lower tooth of each side, and between, the inner membrane with a large deep excision, much longer than broad. The apical margin of the last dorsal segment has a row of bristles extending over the median process.

Head and thorax pale yellowish, without dark marks. The basal joint of antennae also pale, but beyond largely black; toward tip the joints are banded. The wings have the yellowish tint of *B. smithi* and *B. cava*. The fore pair are marked much as in *B. selina*, but not as heavily, the narrow bands rather further apart, and the two large costal spots toward tip are smaller than usual in *selina*, no other large marks; the subcosta near the large spots is curved about as *selina*. In the hind wing the stigmal spot is prominent and beyond are some faint irrorations, much as in *selina*; more irrorate than in *smithi*. Length of forewings 12 mm. One male from Cohasset, Mass. 20 June, 1908, Type M.C.Z. no 28,557.

Betten and Mosely in the Walker Trichoptera, 1940, have a *Neuronia childreni* (page 90) based on a female without locality. They mention dark marks on vertex and on mesonotum, while the pronotum is very pale and with pale bristles; the new specimens of *B. cava* agree closely with this coloration. Their figure of the wing is broader than any of the *B. cava* I have seen, but the figure of the female genitalia is like *B. cava*. Unless another species is found with the same markings I think *B. childreni* must be *B. cava*.

For my *Neuronia canadensis* which has the radius not only curved near stigma, but often united to the subcosta for at least a point, I propose a new genus **Alleodes** (*Alleodes canadensis*). The male genitalia occupy only the lower half of the tip of the abdomen, and are very different in structure from *Banksiola*. In *Banksiola* the head is broader than in

Alleodes, and each hind ocellus about its diameter from the eye; in *Alleodes* the head not so broad, and the hind ocelli closer to the eyes and look more laterally. The apical area of the wing is proportionally longer in *Alleodes* than in *Banksiola*, and some apical veins almost parallel to its fellow.

Neuronia angustipennis Hagen

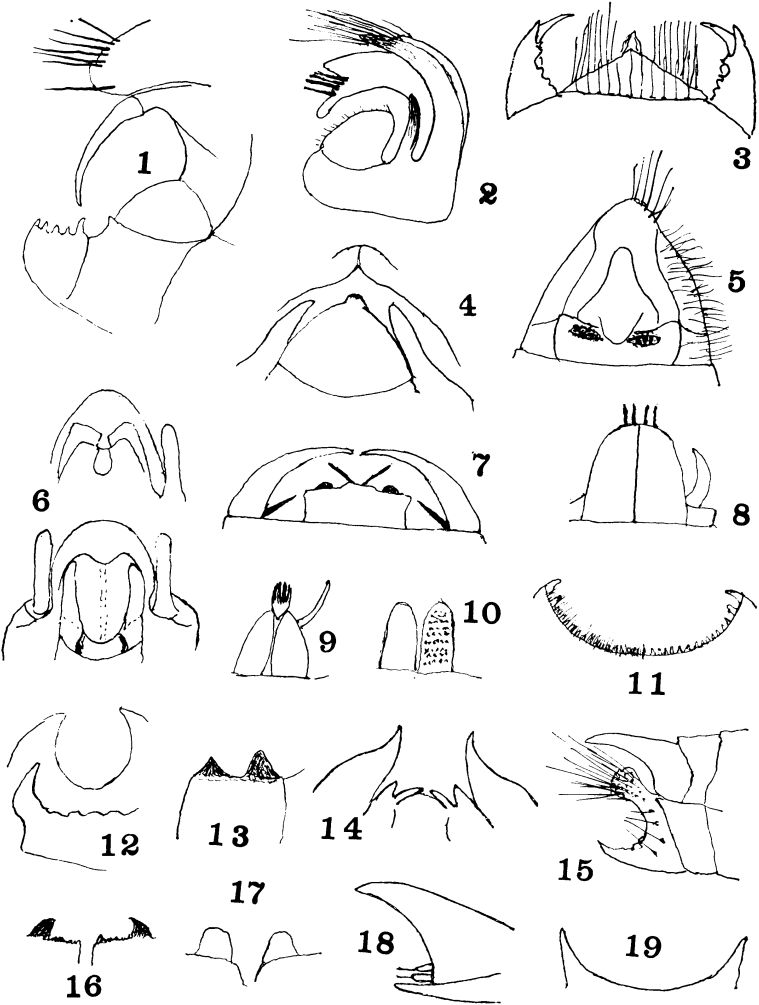
Figures 1, 9, 11

This species is well separated from the usual *Neuronia* by a much more narrow wing and the details of the male genitalia; the costal margin of forewing only very slightly concave. The ocelli are proportionally much further apart than in the other species of *Neuronia*.

I make the new subgenus, **Neuronella**, for *Neuronia angustipennis* (*Neuronella angustipennis*.)

EXPLANATION OF PLATE 2

Fig. 1. *Neuronia angustipennis*, side, genitalia. Fig. 2. *Banksiola dossuaria*, genitalia, side. Fig. 3. *Banksiola cornuta*, tip of abdomen, above. Fig. 4. *Banksiola cornuta*, female, below. Fig. 5. *Neuronia angustipennis*, female below. Fig. 6. *Banksiola cava*, female, below, of two specimens. Fig. 7. *Banksiola cava*, male, tip, above. Fig. 8. *Banksiola dossuaria*, male, tip, above. Fig. 9. *Neuronia angustipennis*, male, tip, above. Fig. 10. *Banksiola dossuaria*, male, dentate processes. Fig. 11. *Neuronia angustipennis*, margin of last ventral segment. Fig. 12. *Banksiola cornuta*, from behind. Fig. 13. *Banksiola selina*, processes on hind margin, Clare Co. Mich. Fig. 14. *Alleodes canadensis*, male above. Fig. 15. *Banksiola cornuta*, side. Fig. 16. *Banksiola selina*, processes, Tim Pond, Me. Fig. 17. *Banksiola selina*, processes, Petersham. Fig. 18. *Alleodes canadensis*, side of male. Fig. 19. *Banksiola cornuta*, hind margin from below.



BANKS — NEW ENGLAND PHRYGANEIDAE